

INITIAL RECOMMENDATION FROM THE REVIEW PANEL

10/26/2011

Our view of the Panel's role

- ▣ Stage One (November)
 - Advisory role
 - Focus our comments on Appendix A: Framework
 - We assume that we will see Appendix B: Entrainment again. We will provide some technical comments on Appendix B
 - We will use Appendix B as a case study of how the Framework was applied.
- ▣ Stage Two (March)
 - Technical evaluation of the Effects analysis
 - We expect that our comments will be incorporated into Framework and utilized and integrated in the other appendices.
 - We also expect our comments to be considered in the structure of the “roll-up” (new term: integration of results)

Goals, Purpose, Objectives and Scope

- ▣ Goals of the analytical framework are not clearly defined.
- ▣ The goal should be to assess the potential **cumulative** effects of the proposed project on the covered species.
 - This includes all conservation measures and interactions among species.
- ▣ We really appreciated the incorporation of detailed ecological principles but they need to insure that they are incorporated into each appendix analysis.

Completeness, Structure and Effectiveness of Description

- ▣ The framework should clearly state critical assumptions and uncertainties of the methods.
 - These would be critical for adaptive management when the BDCP is implemented and setting priorities for special studies.
- ▣ The framework should describe whether other current science was excluded and provide justification for the exclusion.
 - Table A-5 should be expanded.

Completeness, Structure and Effectiveness of Description

- ▣ Change Format of Framework Chapter
 1. What are the goals: What are we trying to achieve?
 - ▣ Refer to page A-42 upfront.
 - ▣ A-53 “Integrating results” should be at the beginning of the chapter.
 2. Vision
 3. Conceptual Models

Completeness, *Structure* and Effectiveness of Description

- ▣ We need a roadmap of how the appendices are related to the conservation measures.
 - Table A-12 should be near the beginning of the chapter

Completeness, *Structure* and Effectiveness of Description

Define the ecological context

- ▣ The ecological context overall is well developed including the several conceptual models.
- ▣ Will the BDCP bring us closer to historical patterns or is there a regime shift that precludes us from using that as a baseline?

Approach and Analysis

- ▣ Species models need to be developed to describe what we know and what we think we know about how the species are using the various habitats and what factors influence abundance, survival, growth rates, etc.
 - Things like habitat suitability models should not be the default surrogate for species models.
- ▣ Does not provide a structure for the weighted evidence approach. (e.g. Table A-11 is a reasonable start but expand with more objective criteria.)

Approach and Analysis

- ▣ All effect analysis need to be scaled up to population effect which is the fundamental currency of the evaluation.
 - Species logic chain should be used.
 - ▣ Approach recommended by Jim Anderson illustrated with Winter Run Chinook
 - An example from Entrainment follows later in this presentation.

Approach and Analysis

- ▣ The analysis of the individual actions need to be scaled to an integrative analysis that includes all 19 conservation measures.
 - The entrainment analysis does not consider the effects of other conservation measures that are occurring simultaneously (and vice versa).
 - ▣ **Technical question: What geometry configuration is DSM2 using for modeling hydrology under future conditions?**
 - It is unclear how operations and annual variability of environmental conditions are taken into account cumulatively.

Approach and Analysis

- ▣ Spatial and temporal scales need to be considered more explicitly.
 - With respect to entrainment as an example, it is not evident that the entrainment analysis was at the appropriate spatial scale.
 - We anticipate that ecosystem restoration will need to address more spatially explicit and long term changes.
- ▣ How will the analysis address non-monotonic changes over time especially early in wetland restoration?

Models

- ▣ We recommend more objectivity in accepting or rejecting models and other analytical approaches.
 - Robustness of the conclusion
 - Proximity of model predictions to desired end-points

- ▣ Take the best models and compare them.
 - In appendix B, we did not see a demonstration of how potentially conflicting findings would be resolved.

App B: Approach and Analysis

- ▣ In appendix B the weight of evidence approach was not completely developed. There was not enough guidance on how to apply this method in Framework chapter.
- ▣ Assessments were not at the desired population level where they should be.

App B: Scale and Rigor of Analysis

- ▣ The models address each conservation measure in isolation but do not integrate all the measures.
 - In appendix B, there was a strong focus on the South Delta pumps.
 - Appendix B does not adequately address entrainment in a new North Delta facility.
 - Geometry configuration is important.

App B: Interpretation and Conclusions

- ▣ Table B-254 is not complete at this time. The table does not incorporate weight of evidence.
- ▣ Recommendation: There is too much information in this table. Summarize effects by species.
- ▣ This table would be more effective if organized at the species population level.

Our questions

- ▣ Explain adaptive limits
- ▣ What is the potential for adaptive management in implementing an already adopted plan?